

Mrs. Handy on Hiva Oa. Stewart gives an excellent description of this headdress. (See Descriptions of Dress by Early Writers and The Warrior's Dress).



FIGURE 23.—Ornaments for the head and ears: a, warrior's headpiece made of shell (*shikana*); b, woman's porpoise-tooth headdress (*pene si*); c, ear ornament made of whale's tooth (*hahakei*); d, ear ornament carved of human bone (*inima*); e, woman's tortoise shell ear ornament; f, carved ear-piercer.

The *ahi hana* was a large pearl-shell held in place over the forehead by a woven sennit head band. On the pearl-shell was an applied tortoise-shell design (fig. 23, e).

262 A feather headdress made by binding the neck and breast feathers of a black chicken on *semit* was called *tuetus*. A braid of *semit* with feathers and porpoise teeth attached to it hung down on one side, lying on the wearer's breast. Just how the *tuetus* was worn and what it looked like I do not know. What Krusenstern (16, p. 157) speaks of as a helmet in the following quotation is probably the *tuetus*. "The headdress consists either of a large helmet of black cock's feathers, or of a kind of diadem."

Aigrettes consisting of tail feathers of the tropic-bird (*tu'a*, *pa'e tu'a*) were worn above the forehead by women—according to one informant it always consisted of twelve feathers. The *pa'e* was an aigrette of the same kind, made, however, of the tail feathers of the cock.

The most common ceremonial headdress was the *pa'e kou'e'ehi*, consisting of a part of a green coconut leaf, placed over the front of the head so that the fronds could be brought around the head and fastened behind. What is spoken of as the *pa'e hei pepe atua*, a priest's headdress the form of which is unknown to modern informants, is probably the same as *pa'e kou'e'ehi*.

The temple assistants (*taputoho*) at Pua Ma'u wore on their heads turbans (*pa'e kohito*) of dark-colored cloth made of the bark of very old paper mulberry stalks pounded roughly. The cloth is said to have been wrapped around the head and tied with a knot in the back, leaving a piece hanging down behind. The *pa'e hiapo* was a turban of the same form made of banyan bark, also used as ceremonial dress.

Dordillon gives *pona iti* as meaning a cloth or headband knotted on the forehead. Other terms referring to headbands and headcloths are *takiko*, *waka*, and *ioha*. The *pa'e koi'oko* was a band of white cloth worn around the head. Dordillon defines *tete poniu* as a head ornament made with seeds of a vine called *poniu*.

EAR ORNAMENTS

301 Ear ornaments, the general name for which was *okaoka*, were worn by both men and women. The more valuable types (*hakakai*, *taiana*) were among the most coveted of possessions—they were family heirlooms.

[304] The piercing of the lobe of the ear, an operation called *oko* or *tui i te puaia*, was accomplished by means of a carved tortoise-shell or bone instrument (fig. 23, f). The piercing of the ears of a chief's daughter was celebrated by a great feast. (See Rites of Childhood and Youth.)

• [321] Both men and women wore *ho'okai* or *hakakai*, ear ornaments carved of whale's teeth in the form shown in the accompanying sketch (fig. 23, e). The large end was worn in front of the ear. A band passing over the head

held the *hakakai* in place. The ear ornaments were sometimes made of wood in imitation of the genuine type. The enormous plaques of wood whitened with clay worn on either side of the cheek, described by early visitors, would appear to be exaggerated examples of these imitations. Variant forms of the *hakakai* were the great pearl shell plaques worn before the ear (14, p. 135), and what Krusenstern (16, p. 157) describes as "large shells filled with some hard substance to which a perforated boar's tooth was fixed."

Small ornaments (*taioa*, *taioa*, *pu taioa*) were carved out of leg or arm bones of ancestors (fig. 23, d). The carved portion projected behind the ear and the button or plug, made of shell, was in front. These were worn exclusively by women and girls, and were inherited in the female line. [321]

Another woman's ornament was the *omao* or *komao*, carved of hog's tusks. The button (*puia*) which held the ornament in place, consisted of the operculum of a shell fish and was worn in front of the ear. What is apparently a simple form of this is pictured by Caillot (3, Pl. LXVII). Small rolls of white cloth called *koufau* were frequently worn in the holes in the ear lobes when ornaments were not being worn, in order to keep the hole distended. No evidence was found of exaggerated enlargement of the lobe. *Tap'a pusina*, *tuka maka*, *tohemaka wuke*, *pohé*, and *tumau puia* are additional terms for ear ornaments given by Dordillon (8). Descriptive translations are not given for these but it is probable that they are variant terms for the types described above. Other terms are *haruai* and *euhe*. What was the native term for the ornament shown in figure 23, e, is unknown. This was a woman's ear ornament.

HEI

Hei, a term used for both necklaces and crowns, refers usually to those made of perishable materials. *Taki hei* are necklaces made of fragrant plants of any kind. The following list of *hei* and the natural objects used for making them is derived from Dordillon (8 and 9), Jardin (15), and from personal notes:

- Hei fa'a hu'a. The common yellow drupe of pandanus.
 Hei fa'a hu'a. Red pandanus drupe. Pandanus collars were the favorite garlands of *hu'a*.
 Hei fa'a haka. Placoglycic eyes.
 Hei pua. Flowers of the pua *Fragaria berteriana* tree.
 Hei pitata. Flowers of *pitata* (?).
 Hei otima. Mint family.
 Hei atu. A small green cucumber.
 Hei piva. The blossoms of the piva.
 Hei mea, (?).

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Both men and

535 women were anointed and dyed with yellow *cas* and oil. They wore
[302] yellow *ti* leaves as girdles, and yellow *ti* leaves strung obliquely across
the body from one shoulder, flowers in the ears, necklaces (*hei*) of
flowers around the neck, and crowns of flowers on the head.

Arrived at a valley the party began to perform at the first house they came to, dancing and singing and inserting the names of the members of the family in their song. The family gave them a present for each name that was sung. In this way they proceeded up and about the valley, visiting every house. They ate wherever they happened to be at meal times. Usually the party slept at the house of the chief, but frequently they slept somewhere else. If a *hoki* party came to a valley seeking gifts, it was certain that inhabitants of the valley would return the compliment—it was the universal rule that an equal number of gifts must be given in return. This was a matter of pride with the valleys. It does not seem to have been so much a matter of rivalry and desire to outdo each other as of a strict squaring of accounts.

On Nuku Hiva a staff with hair and woven sennit (probably a *toko-toko pio's*, see Personal Adornment) was always carried ahead of a *hoki* troupe as it proceeded. The prototype of the *hoki*, according to this informant, was the custom called *moko*, which consisted of parties going from one valley to others seeking gifts of food in preparation for a feast. There was, however, no singing or dancing connected with this ancient custom. Each man seeking gifts carried on his shoulders a boy. (See Memorial Festivals.) This was the sign that it was a *moko*, and gifts and ornaments were given as demanded. In this custom, however, there was a squaring of accounts just as in the *hoki* on Hiva Oa. This Nuku Hiva informant claimed that the ancient term for *hoki* on that island was *haka'eva'eva*. For this word Dordillon (8) gives this translation, "to sing and dance in honor of someone in order to obtain presents."

MUSICAL INSTRUMENTS

DRUMS

534 Drums were made of hollowed trunks of coconut or *Cordia* trees by professional drum makers. The head of the drum was made of a piece of shark's skin drawn taut by means of cords of sennit arranged after the manner shown in the accompanying sketch (fig. 29, f.) Small tiki figures carved of human bone served to tighten the head by drawing together the two cords passing through each of them, in exactly the same way as the heads of modern drums are tightened.

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778 Wanting to take other things, the natives interfered, saying they must not take anything, showing that they respected that house and the figures.

501 Outside the village they had some very long and well-made canoes of a single tree, with the form of a keel, bow, and stern, and with boards well fastened with ropes made from cocoa fibre. In each one there is room for thirty or forty natives as rowers; and they gave us to understand, when they were asked, that they went in these large canoes to other lands. They work with adzes, which they make of thick fish-bones and shells. They sharpen them with [301] 324 large pebbles, which they have for the purpose.

132 The temperature, health, vigour, and corpulence of these people tell what the climate must be under which they live. One suffers cold at night, but the sun does not cause much molestation by day. There were some showers, not heavy; dew was never felt, but very great dryness, so much so that wet things, when left out all night on the ground, were found quite dry in the morning. But we could not tell whether this was so all the year round.

234 They saw pigs, and fowls of Castille, and the fishery is certain wherever there is sea.

241 The trees which have been mentioned as being in the open space before the village yield a fruit which reaches to the size of a boy's head. Its colour, when it is ripe, is a clear green, and when unripe it is very green. The rind has crossed scales like a pineapple, its shape not quite round, being rather more narrow at the end than near the stem. From the stem grows a leaf-stalk reaching to the middle of the fruit, with a covering sheath. It has no core nor pips, nor anything uneatable except the skin, and that is thin. All the rest is a mass of pulp when ripe, not so much when green. They feed much upon it in all sorts of [262] ways, and it is so wholesome that they call it white food. It is a good fruit and of much substance. The leaves of

STONE ARTIFACTS

412 The original settlers of the Marquesas must have been in possession of effective wood working tools, as they would otherwise have been unable to make the large seagoing craft necessary for so long a voyage. There is nothing to indicate that they were familiar with metals, and these tools must therefore have been of stone or shell. In Oceania the use of shell adzes is practically limited to localities in which stone is rare or absent and it seems probable that the first arrivals in the Marquesas brought with them a knowledge of stone working and of at least the simpler implement forms. The islands of the group, with a single unimportant exception, are volcanic, having a great variety of lavas, basalts and tuffas, but they contain no workable deposits of sedimentary or metamorphic rocks. The presence of obsidian is questionable. The primitive implement maker thus had an abundance of material at hand which could be worked by the processes of pecking, grinding and chipping but no minerals which could be pressure flaked. Deposits of workable stone occur in practically all the large valleys, and although there was a distinct tendency toward local specialization and trade, implements of all the known types appear to have been at least occasionally manufactured in each locality. The stone working industry was thus in the hands of many persons, with a corresponding increase in the chances of individual variation. There are a few indications of the existence of local implement types, but the differences are unimportant.

HAMMERSTONES

The hammerstone is the foundation of any stone industry. Marquesan hammerstones were simply hard, water worn pebbles of convenient size and form which were obtained from stream beds or boulder beaches. They were not shaped and appear never to have been hafted, and can be distinguished from other pebbles only by the battering of the ends. (See Pl. XLVIII, F.)

ADZES AND CHISELS

Under this head it has been thought best to describe all stone implements other than gouges, which have a cutting edge transverse to their long axis. No axes have been reported from the Marquesas. Many implements may, from their form, be at once identified as true adzes, but there is a large class of tangless blades whose use can not be established by the form and it seems best to describe them as a group rather than to risk the error of an arbitrary division into adzes and chisels.

Adzes and chisels appear to be uniformly made of phonolite. The material varies more or less, especially in the larger specimens, and it is evident that it was obtained from several sources. No adz quarries were visited, and from the ac-

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the lower part of a narrow *toki kouma* whose tang has been broken off. The implement appears to be complete however, and shows no signs of hafting. It is possible that this implement marks a transition from *toki kouma* to gouges and that the two classes of implements are related. 412

KNIVES AND SCRAPERS

Marquesan knives were usually made from bamboo or shell, and shells were used as scrapers, but stone knives and scrapers also existed. In the absence of iron tools, stone knives have been used as a makeshift until comparatively recent times. Pere Simeon Delmar, head of the Catholic Mission in Taiohae, Nuku Hiva, has witnessed the manufacture of stone knives. He says that the knives, often six to eight inches in length, were made from flakes of a special variety of phonolite, which were detached from a core by a single sharp blow with a rounded stone held in the hand. The natural fracture gave a fairly sharp edge to the flake and it was used without retouching or hafting. When the edge became dull from use, the implement was thrown away. In M. Delmar's experience these stone knives were used only to open and scale fish. Many phonolite flakes were found in old village sites, but their certain identification as knives is impossible. (See Pl. XLVIII, G.) [824] [321]

Two stone artifacts were collected which appear to have been scrapers. One of these, found in an old village site, is a large semicircular spall of some basaltic rock which has evidently been retouched along its lower edge. Its form is not unlike that of some of the shell scrapers used for tapa making. (See Pl. XLVIII, E, 1.)

The second specimen was collected on the island of E'i Ao. It is a thin spall of phonolite which has been worked into rectangular form and dressed along the outer end and one side with an abrupt retouch. This implement appears to be complete, and is much too thin and carefully worked to be a reject from the adz workshops. It was identified by natives as a scraper. (See Pl. XLVIII, E, 2.)

RUBBING STONES

The Marquesans used rubbing stones in the manufacture of various wooden objects and in dressing the large stone slabs which are a common feature of their masonry. The large rocks upon which adzes were ground and polished have already been described (p. 321) and mention has been made of the probable use of whetstones, but it is uncertain whether rubbing stones were used in the manufacture of other stone artifacts. The modern makers of *popoi* pounders deny their use, and none of the ancient artifacts show a finish which could not have been produced by careful pecking and a final polishing with sand. The large flat 412 324

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MISCELLANEOUS TOOLS

Quiros (51) says that the Marquesans used adzes made from thick fish bones or shells. This is the only evidence of the occurrence of these implements in the Marquesas and as no examples are known, it seems probable that Quiros confused the Marquesas with some of the low coral islands visited on the same voyage. 412 321 ●

Sharks' teeth, hafted in various ways, were formerly used as knives and carving tools, but no specimens seem to have survived and the methods of hafting have been forgotten by the present natives. According to Langsdorff (38, p. 175) the teeth from the lower jaw of the shark were used as substitutes for gimlets or awls, being fastened to wooden handles. Sharks' teeth, apparently unhafted, were also used as razors. The hair was gathered in small bunches and the tooth sawn back and forth across it at the roots. [825] [302]

Very few bone tools appear to have been used in the Marquesas. Fleurieu (23, p. 135) mentions the use of bone awls. Narrow wedge-like implements of bone or hard wood were used to pound the feather caulking into the bow and stern seams of canoes. Bone knives are described on page 351.

A number of shell implements appear to have been employed in wood carving, although we have no information as to their form. The grooves in *toa* wood tapa beaters are said to have been cut with pearl shells ground to a keen edge, and the handles were shaped with a small black shell, called *māma*. Fleurieu (23, p. 135) says that the Marquesans used "pieces of shell of different shapes and sizes, sharp or toothed like a saw." Knives made from whole pearl shells ground to a sharp edge were used for a number of purposes. There appears to have been no clear distinction between these and the shell scrapers used in tapa making.

Rasps made from the skin of the shark or giant ray were used in shaping clubs and other objects made from the hard *toa* wood. They were made by wrapping the skin around a smooth stick while it was wet and soft. One end of the stick projected a few inches beyond the skin, forming the handle. (See Pl. LVI, A.) Fine shark skin, apparently not mounted, was used in polishing bowls and other wooden objects. Sections from the tail of the giant ray were also used as rasps, requiring no preparation other than drying. These tail rasps have continued in use until modern times for the grating of sandal wood, although recently they have been supplanted by files. The spines of the sting ray are said to have been hafted and used as saws. 412 322 237

Chisels edged with rats' teeth were formerly used by expert Marquesan artisans in the carving of hard stone. None of these implements have survived, [87] 412 324 [237]

HOOK AND LINE

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Line fishing was carried on both from the rocks and from canoes. On the southern side of Hiva Oa the natives resorted to submerged banks which lay several miles off shore, and fishing expeditions to the various uninhabited islands of the group were not uncommon. The lines used in deep sea fishing were made either of fau bark or coconut fiber; those used by the women in fishing for small fish were made of pineapple fiber. (See p. 379.)

● [321]

A variety of hooks were used, their size and material varying with the nature of the fishing. A tiny hook, made from a single thorn from the edge of a pandanus leaf, was used to catch the little fish in the rock pools. Larger hooks were made either from pearl shell or human bone or a combination of the two. Simple shell hooks (Pl. LXXI, A, 1) were laboriously ground out of a thick pearl shell. The gleam of the nacre served as a lure and made bait unnecessary. Such hooks were barbless with only slightly recurved points and had much the shape of a "J." The upper end was slightly notched on one or both sides for the attachment of the line. A more elaborate form of one piece hook is shown (Pl. LXXI, A, 2). A composite hook made entirely of pearl shell was also employed. (Pl. LXXI, A, 3.) One section of this hook corresponds to the one-piece hook except for slightly greater angularity at the bend. The second piece consisted of a simple band of shell of the same width and length as the shank of the first piece. It was bound to the shank with lashings near the top and bottom, the nacre sides of the two pieces being brought together so that the surface of the completed hook was dark except at the barb. The type is represented only by several specimens in the Salem Museum, and no information in regard to it was obtained in the Marquesas. This form seems to be a purely local development and does not occur in other parts of Polynesia.

One-piece hooks of human bone were occasionally used, made from the curve of the lower jaw. Desgraz (15, p. 285) says that they were sharper than the pearl hooks and that their form was angular rather than oval, but as no specimens have been preserved in American collections exact description is impossible.

Composite hooks of shell and human bone were used to troll for bonito. The ancient form with only slight modifications continues in use to the present date. (See Pl. LXXI, B.)

The body of a hook of this sort consists of a strip of shell $3\frac{1}{2}$ to $4\frac{1}{2}$ inches long and about $\frac{3}{4}$ of an inch wide, pointed at one end and square at the other. In making this strip the pointed end is ground from the valve. Some strips are as much as $\frac{3}{4}$ of an inch thick at the point while the body of the strip is rarely over $\frac{3}{16}$ of an inch thick. The outside of the shell, which forms the bottom of the strip, is ground down until it shows a good luster with a pink, yellow or brown tint. The color is very important, for the strip serves as a lure, and fish refuse to take hooks which are not of the right shade. The thick point of the strip is pierced

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TRUMPETS

As Marquesan musical instruments, trumpets (*pu*) stand next in importance to drums. They are made of *mio* wood and of *Cassis* and *Triton* shells. 534
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The body of the wooden trumpet was a simple tube tapering toward the upper end. (See Pl. LXXII, D.) Dimensions of an average specimen are: length, 1 foot, 9 inches; diameter at mouth, 6¼ inches; diameter at upper end, 3 inches. The walls vary in thickness from slightly less than ½ an inch at the lip to approximately 1 inch at the upper end. A mouth piece of bamboo, 8 inches to 1 foot in length and approximately 1 inch in diameter, was fitted into the small end of the tube. It was not attached in any way, and when the instrument was not in use was usually removed and placed inside the wooden part. A few wooden trumpets were decorated with carving; an unfinished specimen in the Bishop Museum bears several designs which appear to have been copied from tattooing.

The trumpet was blown in the same manner as an European bugle. The trumpets still in use give a remarkably clear and penetrating note. One old informant stated that trumpets of this sort were blown by returning fishing parties to summon the villagers to the shore, but no other uses were mentioned.

Two varieties of shell trumpet were used by the Marquesans. The smaller, which appears to have been somewhat rare, was made from the shell of *Cassis rufa* by grinding away the apex of the whorl. A *Cassis* shell trumpet [825] found in a burial cave in Atu Ona, Hiva Oa, can still be blown and gives a clear but not very loud note. (See Pl. LXXII, B.)

Most Marquesan shell trumpets appear to have been made from the large shell of *Triton tritonis*. The larger shells of this variety were brought up by [825] divers from considerable depths and seem to have been highly valued.

To prepare the shell for use a hole was ground in the side of one of the whorles a short distance below the tip of the shell, and above this a mouthpiece, made of a small gourd, was attached with breadfruit gum. Handy was informed that the mouthpiece was made of bamboo, but this practice certainly was not general. Langsdorff (38, p. 164) says that the mouthpiece was made from an oil nut, but he is probably in error, for the *ama* nut is too small to have been used in this way.

Triton shell trumpets were usually provided with a band of sennit which served for decoration and also for the attachment of a suspension cord. (See Pl. LXXII, C.) A hole was cut in the farthest projection of the lip by sawing a transverse groove in the outer surface of the shell until the channel was reached. A number of small sennit cords were passed through this hole, along the top of the shell, then around the body of the shell a short distance below the apex, and back to the hole again. The separate strands were laid side by side and fastened together at intervals of three or four inches by transverse cords of sennit applied as in simple wrap weaving. There was thus a loop around the apex of the shell and a broad band running longitudinally from the loop to the lip. At either end of the broad band were placed additional lashings from which short loops were made. A long thick cord made from twisted white tapa passed through these loops and served for the suspension of the shell. A tassel, attached just above the lip end of the band, consisted of a number of tresses of human hair which were fastened to strands of sennit in the same manner as in hair ornaments. A tube of human bone, carved into a tiki, was threaded over the sennit cords and concealed all but their inner ends. One of the trumpets examined had been broken and mended with pieces of pearl shell glued on with breadfruit gum. [284]

301 was made by wrapping the lower ends of the feathers with sennit or inserting
 237 them in a short bone cylinder. A sennit loop attached to the ornament was
 slipped over the finger. (See Pl. LXXVI, C.) Dordillon translates the word *kihi*
 as "ornament of white bear" for the fingers." True finger rings seem to have
 been unknown in ancient times.

BRACELETS AND ARM ORNAMENTS

301 The Marquesan shell bracelets are of considerable interest in view of the
 321 wide distribution of such ornaments in Melanesia and their comparative rarity
 in Polynesia. Two examples are shown on Plate LXXVI, B. The broader of
 these is made from the end of a large *Conus* shell of some sort and is rather
 crudely finished. The narrower has apparently been ground from *Tridacna*
 shell, and is unusually well made. As *Tridacna* shells of suitable size are lack-
 ing or at least very rare in the Marquesas it seems probable that this bracelet was
 an importation.

In the Peabody Museum at Salem are some very interesting wrist orna-
 ments which were collected during the early nineteenth century. They are of
 types which have been forgotten by the present natives and the locality in which
 they were obtained is unknown. Two of these ornaments (Pl. LXXVI, F) are
 made from large blue black seeds, about the size of a small grape, which are
 attached to a band of plaited coconut fiber identical with that used for hair orna-
 ments. Each seed is punctured at the stem end and attached to a cord of twisted
 fiber, which is held in place by a small wooden plug. The other ends of these
 cords are plaited into the band.

624] A still more showy wrist ornament is composed of strings of *Abrus pre-*
cartorius seeds. The fiber base is like that used in the ornaments just described,
 but the seeds are pierced and strung on loops of fine cord whose ends are woven
 into the band. (Pl. LXXVI, G.)

NECKLACES

Necklaces made of a great number of strands of braided human hair were
 formerly worn by men in the Marquesas. These necklaces, called by Dordillon
takiouoho, are rare, but there is a very fine specimen in the Peabody Museum at
 Cambridge and four less perfect ones are in the Peabody Museum at Salem.
 (See Pl. LXXVII, 1, A.) In one specimen (2) the strands of hair seem to have
 run around the neck continuously; in the others the strands were made into a
 thick bundle with the ends wrapped with many turns of fine sennit or human
 hair string. One end of specimen No. 1 is wrapped in such a way that it forms
 a compact blunt point and the other end is finished with a sort of corrugated
 cylinder large enough to admit this point. When worn, the pointed end was evi-

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dently thrust through the loop and held on the outside with a pin of some sort. Edge-Partington (20, p. 44) shows a specimen with ends finished in this way which has three shell pendants of graduated size. Necklaces with both ends finished alike were tied behind the neck with strings of twisted tapa. (See Nos. 3, 4.) A polished pearl shell was usually suspended from the center of the necklace. 301

Edge-Partington (20, p. 67) figures a hair girdle from Niue which closely resembles these Marquesan necklaces. A necklace of similar form from the Ellice Islands is now in the American Museum of Natural History, and the National Museum has a series of necklaces from Penrhyn Island which differ from the Marquesan forms only in minor details of the finishing of the ends. All these ornaments are obviously similar to the Hawaiian hair necklaces which with a whale ivory hook formed the insignia of chiefly rank.

Necklaces other than those of hair cord seem formerly to have been worn principally by women. They were made from porpoise teeth, shells, or seeds and in later times of European glass beads. The teeth used were perforated as near the bottom of the root as possible, and strung on threads of pineapple fiber. Bead necklaces were usually made of a double strand of beads which was looped back and forth as in chain stitching. The ends of the necklace were tied together at the back of the neck. Combinations of beads and teeth, or of beads and shells, seem to have been rather common. (See Pl. LXXVII, B.)

GORGETS AND BREAST ORNAMENTS

The Marquesans used a great variety of gorgets and breast ornaments, most, if not all, of which were worn by the men. The most valued of these was the *ei*, or whale's tooth (Pl. LXXVIII, A) some of which at least had a religious significance. As the Marquesans did not catch whales the supply of teeth must have been far below the demand. Porter says that a schooner load of sandal wood could be bought with ten large teeth. Whales' teeth worn as ornaments were drilled transversely near the tip of the root, and were commonly ground at this end, to make them thinner and easier to perforate. In view of their skill in ivory carving it is rather curious that the natives seem not to have carved or shaped these teeth. The tooth was sometimes attached to the ends of a hair ornament worn on the shoulders, serving to weight it down and hold it in position. Most of the specimens seen, however, were attached to ropes of twisted coconut fiber covered with white tapa.

Plaques of large pearl shells were formerly used in the Marquesas, but very few examples have survived.

In making the plaque the shell was ground to a more or less regular outline and the colored outer layers removed except for a narrow band around the edge. This band was dec-

301 orated with a series of closely spaced notches which in one specimen (Pl. LXXVIII, B) gives
 321 the edge of the shell a toothed appearance. Along the upper margin two or more holes for
 suspension were made. Shell plaques of this sort seem to have been intended primarily for
 wear with the necklaces of plaited hair.

Plaques ground from the large end of a species of *Conus* shell were also used as breast ornaments, but they seem to have been much less common than those of pearl shell.

These plaques were smoothly ground on both sides, the marks of the whorls being almost obliterated. A hole for suspension was drilled near one edge; a few plaques have two holes, drilled opposite each other. These plaques appear to have been worn suspended from necklaces, but no complete specimens were seen. Their occurrence in the Marquesas is of considerable ethnological interest as such ornaments are rare or lacking in other parts of Polynesia but are highly developed in Micronesia.

301 Two curious objects of featherwork, one in the Peabody Museum at Salem,
 327 the other in the Peabody Museum at Cambridge, are probably to be classed as
 gorgets. (See Pl. LXXXVIII, C, 1.)

These gorgets are made from glossy black cocks' feathers cut to length, those on the upper edge being quite short and those on the lower edge measuring three inches or more. The feathers are laid on in regular overlapping tiers, beginning at one end of the crescent. The exact method of attachment could not be determined, but the feathers seem to have been pasted to a pad of tapa or other soft material in rows and further reinforced by single strands of banana fiber wrapped around the base of each row. The suspension cords are of plaited fau bark. The attachment of the cord at one end is covered by the natural slope of the feathers; the other end is concealed by a sleeve of fine sennit decorated with human hair cord applied in a wrap weave. At the bottom of this sleeve are traces of a band of green and yellow feathers. The dimensions are: length across tips, $9\frac{1}{2}$ inches; maximum width, $2\frac{3}{4}$ inches; thickness, $1\frac{1}{4}$ inches.

301 An ornament of large seeds, now in the Peabody Museum at Cambridge,
 should probably be classed as a gorget, although its construction suggests that of the hair ornaments. The seeds are black and as large as grapes. They are perforated at the stem end and attached to cords of twisted coconut fiber by the method used for seed armlets. They differ, however, in having two seeds attached side by side to the end of each strand. These strands are attached to a band identical with that used in hair ornaments. To either end of this band are fastened long cords of twisted fau bark.

[324] The most characteristic of the Marquesan breast ornaments are the large collars, or gorgets, made from light wood and encrusted with the seeds of the *Abrus precatorius*. One of relatively simple form is shown on Plate LXXVIII, C, 2. The base of this ornament is a crescent of soft light wood, cut in a single piece. One side of this crescent was coated with soft breadfruit gum, then covered with the shiny red and black *Abrus* seeds. Along either side of the encrusted space are glued flat ribbons plaited from strings of white tapa and blackened fau bark. The ends of these ribbons are plaited together to form the

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According to Handy (32) collars of pearl, called *pipiei*, were sometimes placed with a body at burial, and three types of headdress, the *taavaha*, *packua*, and *hei kua* were sometimes worn around the neck or on the breast.

EAR ORNAMENTS FOR WOMEN

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A pair of ear ornaments of rare type are illustrated in Plate LXXIX, A, 1, 3. The "S" shaped body of these ornaments is made of a narrow strip of tortoise shell which was softened by heat and bent into shape. At about a third of its length the strip is perforated for the attachment of an ornament composed of porpoise teeth and beads. The teeth are somewhat smaller than those usually used for crowns, but like them are strung on loops of coconut fiber. The beads are, of course, of European manufacture. The long projecting end of the strip was thrust through the lobe of the ear, the body of the ornament hanging below with the toothed portion to the rear. These ornaments were used by women.

The object shown on Plate LXXIX, A, 2, may be classed as a woman's ear ornament. Its construction is essentially the same as that of the ornaments just described, but the strip is replaced by a large black seed which has apparently been oiled and polished. The method of wearing this ornament is unknown, but it seems probable that the seed and bead tassel were worn in front of the ear with the teeth behind.

The commonest form of woman's ear ornament, called *taiana* is shown at the bottom of Plate LXXIX, B.

The *taiana* is made of two pieces, a cap and a body. The cap, called *puii*, is made from some white shell, probably *Tridacna*, and has on the inner side a cylindrical cavity about one-fourth of an inch deep. The sides of this cavity are lined with a thin layer of pith or soft wood. The body consists of a thin strip of human bone whose inner end is finished with a short cylindrical shank. The tip of this shank is cut to accurately fit the cavity in the cap. The rest of the body is decorated with highly conventionalized human figures. A large figure with extended arms is represented in profile at either end, and between these, two smaller figures, shown in front view. The heads of these small figures are supported by the hands of the end figures, while their legs appear at the bottom. Their bodies are not represented. The two ornaments shown at the top of the plate differ considerably from this normal type, but the basic concept is probably the same as the four heads are still recognizable. The inner sides of the ornaments are left rough. The elaborate piercing used in working out the designs is especially interesting as this technique seems not to have been employed in any other Marquesan objects. Ornaments of this sort were worn with carved portion projecting horizontally behind the ear, the cap, which was fitted on the shank, resting against the front of the ear lobe.

The bone of which they were made is said to have been obtained from dead relatives, not, as was the usual practice, from revenge victims. The figures represent ancestors, one of the large figures being male and the other female. Such ornaments were highly prized, and were inherited in the female line.

According to an informant in Fatu Hiva women sometimes wore ornaments similar to the *taiana*, but made from a boar's tusk instead of human bone. Early writers make little or no reference to women's ear ornaments, although they describe those of the men in considerable detail.

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EAR ORNAMENTS FOR MEN

The most highly prized of the men's ear ornaments were the *ha'akai* (Dor-301
dillon, 17). 321

Ha'akai were made from whale ivory in the form of a thick disc from whose rear surface a spur projected. The disc portion was oval, with a flat or slightly rounded outer surface, and was undecorated except for two broad shallow grooves around the edge. The spur was placed near one end of the oval, and was usually made in one piece with the disc. In the specimen shown on the left (Plate LXXIX, C), the spur is made from a separate piece of ivory, its base fitting accurately into a cavity in the disc. It is held in place by small plugs of wood and ivory which pass through holes drilled diagonally through both disc and spur. The ends of these plugs are cut flush with the surface of the disc and it is evident that the attachment was permanent. One or two small tiki figures in high relief are carved on the sides of the spur, and in some plugs there is an additional figure at the tip. A hole, parallel to the long axis of the disc, was usually drilled through the spur near its base.

The ornaments were worn with the discs in front of the ear, the spurs passing through holes in the ear lobes and projecting behind. A small wooden plug, thrust through the hole near the base of the spur, kept the ornament in position. The weight of some discs was supported by a band which passed across the top of the head.

Several other types of men's ear ornaments are described by early writers. 301
Stewart (59, pp. 248-249) says:

In their ears, and entirely concealing them, they wore ornaments of light wood whitened with pipe clay. They are perfectly flat in front, something in the shape of the natural ear, but much larger, and are fastened by running a long projection on the hind part through slits made in the ears for receiving such ornaments.

A portrait of a chief wearing ear ornaments of this type is shown by Cook (14, p. 306). In this figure the discs appear to be in the form of long ovals of rather irregular outline.

An object which probably formed part of an ear ornament of this general type was obtained from a burial cave in Hanamenu, Hiva Oa. It is an oval disc of light wood about $1\frac{3}{4}$ inches long, $1\frac{1}{2}$ inches wide, and $\frac{1}{4}$ of an inch thick. In the center there is a small perforation which may have served for the attachment of a spur. Both sides are smoothly finished, and the edge is cut in such a way as to leave a flange on what was probably the outer side.

Krusenstern (34, pp. 157-158) says of the natives of Nuku Hiva:

They adorn their ears with large white muscles of a circular form, filled with a hard substance like sand, to which a perforated boar's tusk is affixed for the purpose of fastening it to the ear; a small wooden plug passes through the tooth, serving as a clasp to prevent its falling out.

Langsdorff (38, pp. 170-171) says: "A muscle shell of an ounce weight, to which is fastened the fang of a hog somewhat polished, or a light oval piece of breadfruit wood, is the great ear ornament," and Fleuriu (23, p. 114) makes the observation that, "although both men and women have their ears pierced none were seen who habitually wore pendants."

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probably was always a rare and greatly valued ornament. A narrow band of featherwork, corresponding to one of the three strips in the large *packua*, was worn as a headdress in Nuku Hiva. It was also called *packua*. 292
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According to Handy the *packua* was worn by young chiefesses at fetes, and was also sometimes worn as a breast ornament. Its principal use, however, was as a man's headdress.

A few other types of feather headdresses seem to have been in use. Forster (25, pp. 15-16) says that some of the natives of Hiva Oa wore "round coronets of the small linguated feathers of the man-of-war bird." Stewart (39, p. 313) says that a *tava* (priest) seen by him in Nuku Hiva wore "a full wreath of red and white feathers, much soiled, in alternate bunches over the forehead and temples." From his notes and from Dordillon's dictionary Handy has compiled names of additional feather ornaments as follows:

Heikua: A wreath of red cock feathers worn by women to dance the *hakapahaka*. The feathers were attached to sennit.

Tua: An ornament of twelve upright *toake* feathers, which was worn on the forehead.

Hei mekameka: Head ornament of long cocks' plumes.

Kohepea: Long cocks' plumes attached to the end of a stick, worn as an ornament.

Koketata: Aigrette of cocks' plumes on the end of a stick.

Pea: Long tail feathers of a cock. Aigrette of these feathers.

Peue: Head ornament of feathers in the form of a visor.

Tua: Aigrette of red feathers of the tropic bird.

A number of striking headdresses of materials other than feathers were also used by the Marquesans. 292
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Wreaths or garlands of porpoise teeth (*peue ei*), worn principally by women, are still obtainable, although their manufacture has been discontinued for a number of years. The base of these ornaments is a band plaited from a number of strands of twisted coconut fiber. (See Pl. LXXXII, A.) The technique is identical with that employed for the bands of hair ornaments. The band is widest in the middle and tapers toward the ends, which are turned over and plaited back into the band on the outer side, forming stiff loops. Through these loops the tying strings, usually of white tapa, are passed.

The teeth were drilled through the root, and were attached as follows: A small bundle of fibers was released from every other cord on one half of the plait, threaded with beads and teeth, and its free end twisted into the corresponding cord on the opposite half of the plait. In almost all specimens both teeth and beads are used, each of the loops having six or more beads at each end and from 10 to 15 teeth in the middle. According to one informant, in ancient times small fish vertebrae were used instead of beads. In one specimen the beads are absent, the entire loop being threaded with teeth. It is evident that the twisting of the cords in the plait, the stringing of the loops, and the plaiting were carried on simultaneously.

In all the specimens examined, the teeth had apparently been drilled with metal tools. The perforations are remarkably small, and the teeth fit the cords on which they are strung so tightly that it is difficult to remove them even when the cords have been broken. Most, if not all, of the teeth used in these wreaths were obtained from the island of Ua Pou. An ordinary wreath contains from 1000 to 1500 teeth, and the demand evidently exceeded the supply, for several wreaths were seen which contained imitation teeth made of bone. A unique specimen, made entirely of bone, is shown on Plate LXXXII, B.

When not in use the wreath was straightened and a smooth rod, about half an inch in diameter was run through all the loops, between the teeth and the plaited band. The orna-

292 ment was thus held rigid, reducing the danger of breakage. It was then rolled in
 297 several thicknesses of tapa. When the teeth in a wreath had become yellow or dirty they
 321 were scoured with fine sand.

A curious type of headdress (*packaha*) is shown on Plate LXXXI, A. Its manufacture appears to have been limited to Hiva Oa, Tan Ata and Fatu Hiva. It apparently was not made in Ua Pou (Handy) nor in Nuku Hiva, although ornaments of this sort, obtained in trade, were sometimes worn in Nuku Hiva during the early historic period. Some informants of Hiva Oa say that it was not worn in Hiva Oa in ancient times, and ascribe it to Fatu Hiva.

[177] The *packaha* consists of a number of plaques of shell and tortoise shell which are attached to a band of woven coconut fiber. The warp strands run longitudinally, the weft strands passing back and forth across the band in a wrap weave. The direction of the wrapping is changed at regular intervals, producing an ornamental banded effect. The edges of the band are re-inforced by cords somewhat heavier than the regular warp strands, and its ends are finished in stiff loops. The form and weaving of the band is shown on Plate LXXXI, C. The outer surface of the band was originally covered with small discs of mother of pearl about the size of shirt buttons. A small toothed disc of tortoise shell was fastened to the center of each pearl disc. Machine made buttons of china and shell were introduced by the traders at an early time, and soon supplanted the old pearl discs on these headdresses. The ends of the band were covered by pearl shell plates, overlaid with thin openwork strips of tortoise shell. The form and ordinary design of these plates can be seen on Plate LXXXI, A. The end plates were called *kana*, the small discs, *kana momo* (Handy).

The plaques, which form the principle part of the ornament, were fastened to the lower edge of the band. There seems to have been no fixed rule as to the number of plaques, but more than seven tortoise shell and eight shell plaques were rarely employed. They were attached to the band by coconut fibers passed through small holes drilled at their tops, and were fastened together near the lower ends in the same way. The shell plaques were made from large conch or Triton shells, and were highly polished on all surfaces. They were made from the lower end of the shell and preserved its natural curve. The tortoise shell plaques were two or three times as wide as the shell plaques, and were elaborately carved. The decoration usually consisted of a large highly conventionalized human figure in the center, with panels of superposed smaller figures or designs on either side. A narrow band of designs ran across the lower end. The paces on each side of the head of the large central figure were pierced. In a few specimens the central figure was replaced by two smaller figures, but the examples shown on Plate LXXXI, A, B may be taken as typical. The most curious feature of this decoration is that, when the ornament was on the head, the figures were all upside down. This lends some support to the statement of one informant that the *packaha* was originally worn with the plaques above instead of below the band, although all natives agree that in historic times it was worn with the plaques inverted.

The tortoise shell plaques were bent outward at the bottom, their curve conforming roughly to that of the shell plaques. When the ornament was on the head the lower edge flared outward over the eyes, like the visor of a cap. Many of the tortoise shell plaques are perforated at the lower edge, suggesting that small ornaments were suspended from them. An ornament of white beard (*parahina*) was usually attached to the center of the *packaha* band and projected above it.

[177] The materials used in the *packaha* were all obtained locally. Two varieties of tortoise shell bearing turtles were distinguished by the natives, the shell of one species being thick and easily worked, and that of the other thin and brittle. No method of cementing the plates together seems to have been known, and the way in which the tortoise shell plaques were bent has been forgotten. Tortoise shell was highly valued by the natives, and the white traders met the demand by importing brown sheet celluloid. Many of the *packaha* in American col-

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lections are of celluloid and the carving on such objects is often superior to that on those of genuine tortoise shell. There are indications that the traders went even further in the *packaha* trade, for the plaques in a specimen seen in Pua Ma'u, Hiva Oa, seem to have been stamped in a mold. The material used was apparently vulcanized rubber. 292
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Packaha were made by special *tuhuna*, and according to Handy were paid for in pigs. Land was not legal tender in this case, because the *packaha* was worn on the head, and if a woman walked on the land given in payment it would be as though she stepped over the head of the owner of the *packaha*, a great defilement. The holes in the plaques were made with a pump drill and the carvings executed, in ancient times, with rats' teeth. [436]
[784]

Packaha were worn by both men and women and in view of the large number preserved in collections it is rather curious that neither Cook nor Fleurieu mention them in their accounts of the southern islands although they speak of other headdresses for whose existence we have little other evidence. This would seem to strengthen the evidence for their Fatu Hivan origin, and it seems probable that they became popular in the other islands of the group only in historic times.

In contrast to this silence in regard to the *packaha* we have an abundance of early references to another sort of shell and tortoise shell headdress, the *uhikuna* (Handy). Cook says (14, p. 309-310):

Their principle headdress, and what appears to be their chief ornament, is a sort of broad fillet, curiously made of the fibers of the husks of coconuts. In the front is fixed a mother of pearl shell wrought round to the size of a tea saucer. Before that another, smaller, of very fine tortoise shell, and perforated in curious figures. Also before and in the center of that, is another round piece of mother of pearl, about the size of half a crown, and before this another piece of perforated tortoise shell the size of a shilling. Beside this decoration in front, some have it also on each side, but in smaller pieces; and all have fixed to them the tail feathers of cocks or tropic birds, which, when the fillet is tied on, stand upright; so that the whole together makes a very slightly ornament.

Plate LXXXI, C shows the lack of one of these ornaments and the inside of the head band. The bands were plaited in the same way as those of the *packaha*. The pearl shell, of the largest size available, was ground to a regular outline and drilled near the center with two or more holes for attachment.

A very fine specimen, now in the Peabody Museum of Salem, is shown on Plate LXXXII, C. The final disc of tortoise shell is missing—possibly it was never there. The design on the large tortoise shell disc is of the same general type as that illustrated by Cook (14, p. 310). There are indications that two distinct conventions were employed in the carving of these discs.

One convention was characterized by a round disc with elaborate tracery, and an absence of human figures. In the other the disc was oval and from the top center rose two large hooks, with their tips pointing outward. Radiating from the center of the oval were six rather large tiki heads, with the spaces between cut away. Bordering the oval, and joining the tops of the heads, was a continuous band, toothed on the outer edge and delicately pierced and traced. *Uhikuna*, in which the oval discs were used, seem usually to have had the ends of the bands covered with plates of mother of pearl and tortoise shell like those used on *packaha*. Those with round discs lacked the plates. It seems probable that these conventions represent local

292 variations, but we have no data as to the locality from which the examples in American
237 museums were collected.

321 The construction of the feather ornaments attached to the *uhikana* is clearly shown in Plate LXXXI, C.

The base of the ornament is a straight stick 8 to 10 inches long, and about $\frac{1}{2}$ an inch thick at the bottom and tapering to $\frac{1}{4}$ inch at the top. This is flattened on the sides. The feathers are laid on with their quills resting against the flat sides, and are held in place by a continuous wrapping of sennit, the work progressing from the top downward. The technique is thus essentially the same as that used in the *tauraha*. The lower ends of the ornaments are inserted between the shell and the band, and attached to the band by loops of sennit.

The *uhikana* was essentially a man's headdress, but does not seem to have been tapu to women. It was worn principally by warriors and dancers, and seems to have been used in all the islands of the group.

A sennit and pearl shell ornament of different type is preserved in the Peabody Museum of Harvard University. The nacre is in the form of small pear-shaped ovals, which are fastened point down upon a sennit band. The band appears to be plaited, and is certainly not woven as are the bands of *packaha* and *uhikana*.

292 A peculiar object, probably a headdress, is shown on Plate LXXXII, D. It is made from small cords of twisted coconut fiber, and consists of a woven band from which hangs three rows of broad flat fringe.

Edge-Partington (20, p. 47) illustrates a head ornament consisting of a sennit band which bears, in the center of the front, a grotesque head, also woven of sennit, with nacre eyes and pointed teeth.

A few other headdresses are mentioned by early writers. Forster (25, pp. 15-16) says:

"Some wore . . . a circle from which several ranges of twisted strings of coconut coir about two inches long, either of the natural color or dyed black diverged round the head." Krusenstern (34, pp. 156-159) mentions a headdress made of "a ring of soft wood, from which a row of strings is suspended." An informant in Hiva Oa said that a string head-dress called *pach'a* was used in ancient times, but could give no details of its form. It seems probable that it belonged to one of the types already mentioned.

Fleurieu (23, p. 113) says: "They wear a sort of helmet visor covered with white fabric on which different figures are painted in black."

Aigrettes made from old men's beards were frequently worn with the *peue ei* and *packaha*, and probably with other ornaments as well. They were called *parahina*. They seem to have been used in all the islands of the group, and [302] are represented in most museum collections. The beards were usually those of old male relatives, but an old man who was not a relative might be paid to let his beard grow for the purpose. The owner of such an ornament can usually give [178]